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Editorial

Robotic reconstructive surgery: The time has arrived

Thank you to the *Asian Journal of Urology* (*AJU*) for the honor of allowing me to be the guest editor for this special focus section on robotic urinary tract reconstruction. This topic has been a large focus for me in my career; in my pursuit of knowledge in this new sub-field of urology, I have been so fortunate to have met so many talented surgeons who share a similar passion.

The urinary tract spans a large anatomical region, and due to the large variety of conditions that affect it, an endless variety of functional and structural urologic problems can arise. Urologists have always been adept surgeons capable of operating in various anatomical spaces and have embraced technological innovation. Historically, the trend has moved from open surgery to endoscopic treatment; however, many patients with reconstructive needs remain untreated or sub-optimally managed. With the advent of robotic surgery and the demonstration that robotic surgery was feasible—and in many cases preferable—for various urologic malignancies, there has been a rapid adoption of robotic techniques worldwide [1,2]. As urologists gathered more experience with robotic oncology, there have been several key realizations that galvanized the evolution to robotic reconstructive surgery [3–5]. First is that the robotic platform is a wonderful reconstructive tool. Complex dissections and anastomoses are made shockingly precise due to the three-dimensional, magnified optics and wristed instrumentation. Secondly, in experienced hands, revision surgery, even in the face of significant postoperative and post-radiation adhesions, can be accomplished without necessitating conversion to open surgery [6,7]. Lastly, innovations in techniques and technologies, such as near-infrared fluorescence and applying buccal mucosa grafting to the ureter, have unlocked new possibilities and enabled improved outcomes that were not possible using traditional strategies [8,9]. As more and more centers report successful series of various robotic reconstructive cases, it is critical that we as the scientific surgical community promote data-driven discovery and evidence-based best practices and guidelines for the urologic community. Moreover, we have a responsibility to disseminate reproducible techniques that will be adopted by less experienced surgeons and trainees in order to benefit patients suffering from many of these unfortunate conditions.

In this section, we hope to draw interest and inspiration to our audience as they read about surgical reconstruction of pyeloplasty failures, bladder neck contractures, various pelvic fistulas, complex mid-distal ureteral strictures, and even uretero-enteric strictures. We include an article describing the various complications that can arise from urinary reconstruction. High-dose pelvic radiation, complex stone disease, and iatrogenic injury to the ureters are all mechanisms of injury that remain a challenging fact of life for many patients. Although robotic reconstructive surgery is still in its infancy, the key technologies and techniques have arrived in 2024. Finally, the time has come for many of these unfortunate patients to eschew long-term, temporizing measures in favor of definitive robotic repair.

Finally, I want to thank all the talented authors for submitting these excellent papers and the tireless *AJU* editorial staff that made this issue possible. I am delighted that this topic is finally receiving the attention that it deserves with a special focus section. We all hope that *AJU* will be the journal to which many authors will submit future novel and groundbreaking work in the area of robotic reconstructive surgery.

Conflicts of interest

The authors declare no conflict of interest.

References

[1] Maynou L, Mehtsun WT, Serra-Sastre V, Papanicolas I. Patterns of adoption of robotic radical prostatectomy in the United States and England. Health Serv Res 2021;56(Suppl. 3): 1441–61. https://doi.org/10.1111/1475-6773.13706.

[2] Cacciamani G, Desai M, Siemens DR, Gill IS. Robotic urologic oncologic surgery: ever-widening horizons. J Urol 2022;208:8–9.

https://doi.org/10.1016/j.ajur.2024.03.001

[3] Kim S, Buckley JC. Robotic lower urinary tract reconstruction. Urol Clin 2021;48:103—12.
[4] Drain A, Jun MS, Zhao LC. Robotic ureteral reconstruction. Urol Clin 2021;48:91—101.
[5] Osman NI, Mangir N, Mironska E, Chapple CR. Robotic surgery as applied to functional and reconstructive urology. Eur Urol Focus 2019;5:322—8.
[6] Asghar AM, Lee Z, Lee RA, Slawin J, Cheng N, Koster H, et al. Robotic ureteral reconstruction in patients with radiation-induced ureteral strictures: experience from the collaborative of reconstructive robotic ureteral surgery. J Endourol 2021;35:144—50.
[7] Dirie NI, Ahmed MA, Wang S. Is secondary robotic pyeloplasty safe and effective as primary robotic pyeloplasty? A systematic review and meta-analysis. J Robot Surg 2020;14:241—8.
[8] Lee Z, Moore B, Giusto L, Eun DD. Use of indocyanine green during robot-assisted ureteral reconstructions. Eur Urol 2015;67:291—8.
[9] Zhao LC, Weinberg AC, Lee Z, Ferretti MJ, Koo HP, Metro MJ, et al. Robotic ureteral reconstruction using buccal mucosa grafts: a multi-institutional experience. Eur Urol 2018;73:419—26.

Brian W. Chao
Daniel D. Eun*
Department of Urology, Lewis Katz School of Medicine, Temple University, Philadelphia, PA, USA

*Corresponding author.
E-mail address: Daniel.Eun@tuhs.temple.edu (D.D. Eun)

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